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METROPOLITAN TORONTO AND REGION
TRANSPORTATION STUDY

PRE-INVENTORY SURVEY
AN ASSESSMENT OF BASE MATERIAL

March 1964





METROPOLITAN TORONTO AND REGION
TRANSPORTATION STUDY

PRE-INVENTORY SURVEY
AN ASSESSMENT OF GROWTH NEEDS

March 1964

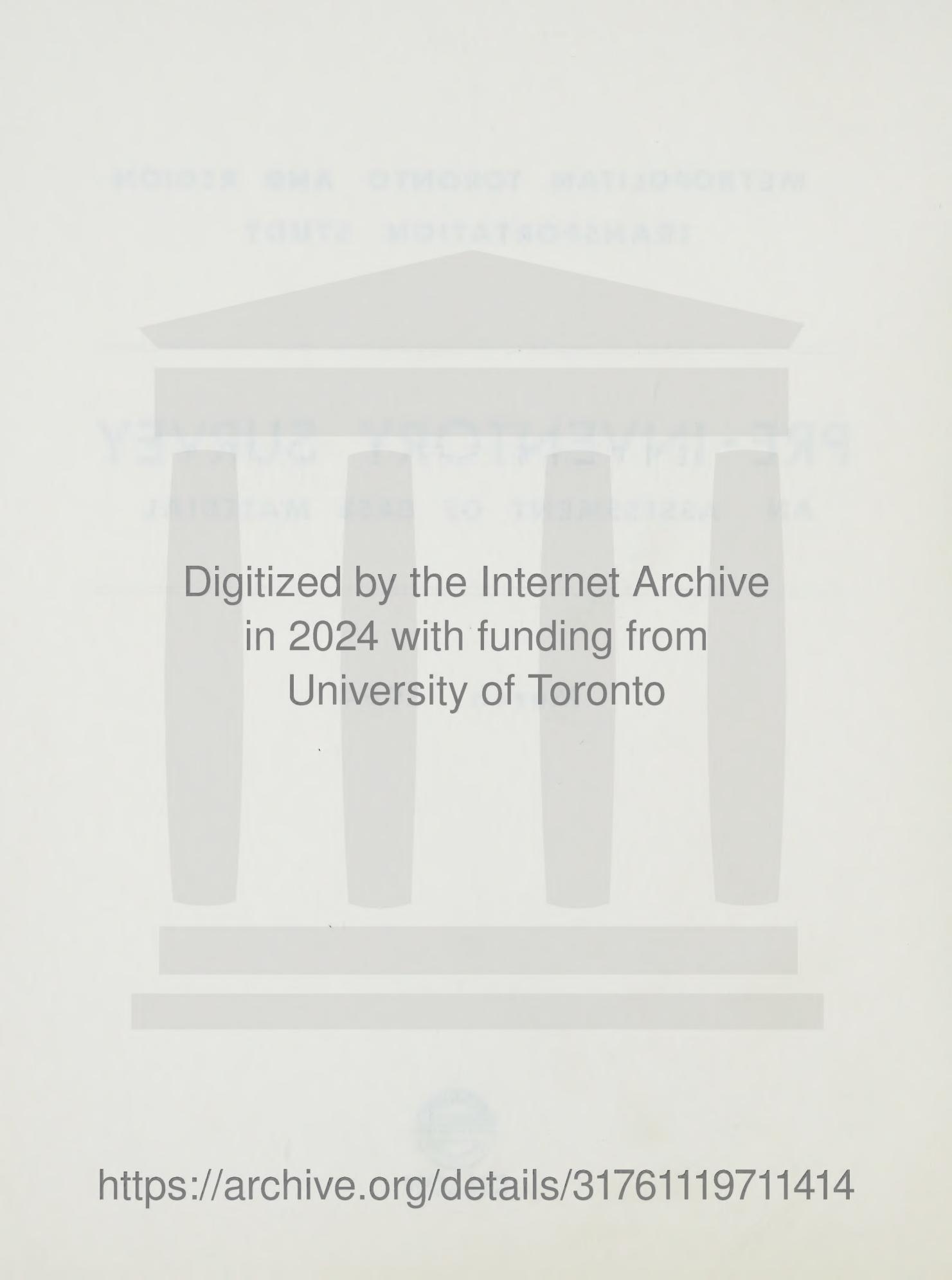


M M DILLON & COMPANY
GENERAL CONTRACTORS
**METROPOLITAN TORONTO AND REGION
TRANSPORTATION STUDY**

**PRE-INVENTORY SURVEY
AN ASSESSMENT OF BASE MATERIAL**

March 1964





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CONSULTING ENGINEERS

Box 219, Station K

88 Eglinton Ave. E., Toronto, Ont.

HU 1-6886

OUR FILE 5914-1

YOUR FILE

25 March 1964.

Mr. P. E. Wade, P. Eng.,
Study Director,
Metropolitan Toronto and Region Transportation Study,
Box 277, Parliament Buildings,
TORONTO, Ontario.

Re: Pre-Inventory Survey:
Assessment of Base Material

Dear Sir:

We transmit herewith this confidential report, supplementing the extensive tabulations comprising the actual Pre-Inventory Survey. The latter is to be submitted under separate cover for broader distribution.

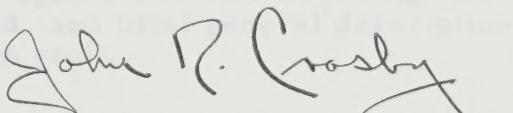
This document represents a summary of findings and general recommendations. Included are brief descriptions of the type of information obtainable from each of the agencies contacted, and comments are made outlining the nature, best source, format and general availability of data by specific inventory item.

On January 17, 1964 we submitted our appraisal outlining the tasks considered necessary to implement this preliminary stage of base data assessment. Authorization to proceed with the assignment (dated February 7, 1964) was duly received, and work began at once.

We hasten to acknowledge the cordial cooperation tendered during the course of the data assembly, not only by members of the M.T.A.R.T.S. Staff, but also by all representatives of the agencies contacted.

Yours very truly,

M. M. DILLON & COMPANY LIMITED.



John R. Crosby, P. Eng.,
Project Manager.

JRC /HT



LONDON . TORONTO . OTTAWA . WINDSOR . SUDBURY . WINNIPEG

INTRODUCTION

As presently defined, the M. T. A. R. T. S. area comprises the following:

1. York County,
2. Halton County,
3. Peel County,
4. Simcoe County, south of Highway Number 90 and a westerly projection thereof,
5. Ontario County, exclusive of Mara and Rama Townships,
6. Township of East Flamborough, in Wentworth County.

The intention herein is to outline the nature and extent of available background material relevant to current and potential requirements of the Transportation Study. Objectives of the present assignment are as follows:

1. to determine the best source or sources of each category of data sought,
2. to identify the form in which each element of data is recorded at the source, and
3. to suggest methods for recording data, so that
 - (a) a central register of information might be established, and
 - (b) information gaps and incompatibilities might be ascertained with facility.

AGENCIES CONTACTED - TYPE OF DATA OBTAINED

Representatives of thirteen agencies were interviewed during the course of the "pre-inventory" survey. In several cases, persons initially contacted invited selected senior members of their staffs to attend the interviews, so that more complete and detailed coverage could be made of the numerous reports and statistics extant.

In every case, most courteous cooperation was extended to the interviewer, and it is felt that as comprehensive an assessment as possible has been made of the varied data available, considering the specified limitations of time and scope.

In the following paragraphs, the agencies contacted during this first phase of the data survey are named, and brief general descriptions are given of source data obtainable from each.

1. Ontario Department of Highways - D.H.O.

Considerable data is available concerning rural and urban road systems: historical vehicle volume counts of every type (e.g. A.T.R., classification, intersectional turning movement, etc.) are intensively documented.

Traffic and Transportation studies of the Hamilton Area, Oshawa and Barrie contain statistics on land use, population, vehicle registration, vehicular and pedestrian flows, parking and accidents in the vicinities covered, and also contain projections of traffic movements and roadway networks proposed to serve growth in population and traffic activity. Similar studies are under way for Oakville-Burlington, Brampton-Bramalea, the Toronto-Hamilton Corridor, and North and East Toronto.

Various route studies for major urban and rural highways serving the Toronto region are available. These each involve a study of existing conditions and projected usage patterns: most of the controlled access highways in use and proposed are covered.

2. Ontario Department of Transport - D.O.T.

Statistics regarding annual vehicle registration and traffic accidents are available for virtually all rural and urban areas. All types of roadways, i.e. Kings' Highways, county roads, township roads, urban streets, etc. are covered by accident records.

Projections of vehicle registrations are put forward.

Records of revenues from motor vehicle license fees and fuel taxes are procurable.

Mr. R.C. Cooke, Director, D.O.T. Research Branch, had begun to compile a bibliography (designed to form the basic library index for the Regional Transportation Study) before it was decided that a consultant would be hired to conduct the "pre-inventory" survey. Work on the original list was then suspended, on the understanding that the consultant's report would include the same data.

3. Ontario Department of Municipal Affairs - D.M.A.

Data concerning municipal constitution, and present and projected land use and population are available for incorporated entities within the study area. In addition, D.M.A. compiles land use and population data on a regional basis.

4. Ontario Department of Economics and Development - E. and D.

Present and projected populations, land use, transportation systems and facilities, commodity movements and revenue structures are all tabulated and analyzed for various economic regions, and selected counties and municipalities within the study area.

5. Toronto Harbour Commission - T.H.C.

Statistics are available concerning cargo handled by and distributed from the port: tonnages, revenues and consignees are recorded on an annual (i.e. seasonal) basis.

Data is also available regarding usage of and revenue derived from parking facilities operated by the Commission.

6. City of Toronto Planning Board - C.T.P.B.

Statistics on land use, population, transportation systems and pedestrian and vehicular movements are available, covering the City of Toronto.

Several reports have been published outlining projected development within various Planning Areas and portions thereof: these represent statements of policy, and are formulated on the basis of current statistics and generally accepted methods of projection.

7. Metropolitan Toronto Planning Board - M.T.P.B.

Data is available covering land use, population, income, transportation systems and pedestrian and vehicular volumes on roadways and transit routes. The "Draft Official Plan of the Metropolitan Toronto Planning Area" deals with many of these items, and contains a broad spectrum of projections.

8. Toronto Transit Commission - T.T.C.

Information is obtainable covering route layouts, passenger loads, general operations and revenues of the T.T.C. system and of selected facilities.

9. Canadian National Railways - C.N.R.

Details of operations (schedules, passenger loads, commodity shipments, capacities and usage of terminals and transfer points, express movements, property charts and track plans) are all available in the form of records and maps. Projections of usage, employment, facility development and revenues may be requested.

Data and projections regarding (a) commuter rail service, and (b) the establishment of the C.N.R. by-pass and Vaughan Township Marshalling Yard are presented in the form of reports. The latter contains certain policy statements based upon material of a confidential nature.

10. Canadian Pacific Railway Company - C.P.R.

Details of operations are obtainable, which would generally correspond to those mentioned immediately above in connection with the C.N.R.

Studies concerned with commuter rail service are on a joint C.P.R./C.N.R. basis.

A simulation study, pertaining to effects of the new Agincourt Marshalling Yard upon freight operations, would be available to the Study Group.

11. Board of Trade of Metropolitan Toronto - B.T.M.T.

Critiques and statements in the form of briefs and reports are available concerning subsidy structures, proposed transportation facilities, and projected changes in land use resulting from the latter.

12. Toronto Area Research Conference - T.A.R.C.

The T.A.R.C. Catalogue of Statistical Data is an extensive list of briefs, reports and statistical records dealing with the Metropolitan Toronto area. Several of the agencies covered therein have been approached in connection with the "pre-inventory" survey: obviously, it would be mutually beneficial to eliminate the resulting duplication of data.

The T.A.R.C. catalogue format was adopted for our own tabulations, as the system of headings appeared eminently suitable for the "pre-inventory" survey. We hasten to add that the former represents a valuable selection of background material for the Transportation Study, and that reciprocal advantages will accrue to the T.A.R.C. and to the Study Group from a judicious combination of the two lists.

13. Emergency Measures Organization (Canada) - E.M.O.-C.

Recently prepared topographic base maps at various scales are available for the M.T.A.R.T.S. area and also on a provincial and national basis: the military grid is overprinted on these maps. In addition, resource mapping is being prepared, covering major urban areas.

14. Dominion Bureau of Statistics - D.B.S.

A large number of the standard monthly, annual, "census" and "special" bulletins listed in the D.B.S. Catalogue of Current Publications are either directly or obliquely relevant to the needs of the Study Group. Statistics are readily available dealing with population, employment by occupational classification, income and transportation systems (volumes of passengers and freight carried; revenues) in the form of tabulations and historical trends, for census subdivisions.

Most of the agencies covered use base maps for recording, analyzing and projecting data: hence, various subdivision and zoning systems are in use, the nature of which depends largely upon the type and application of material at hand.

BREAKDOWN OF DATA: SUBJECT HEADINGS

The submission from the Study Director to the Operations Sub-committee Members, dated January 27, 1964, contained a list of subject headings intended to represent the technical scope of the present assignment.

Referring to the index to tabulations comprising the actual "pre-inventory" survey, it will be seen that certain revisions have been applied to the list of subjects initially set down. It was felt that some of the original titles suggested a level of data coverage somewhat too detailed for purposes of the present assignment: thus, headings have been regrouped in an attempt to achieve consistency of expression and of detail available. Wherever possible, identical corresponding titles have been adopted for the first two major headings -

- I - "EXISTING CONDITIONS",
- II - "FORECASTS OF FUTURE CONDITIONS",

in the hope that cross-referencing and data retrieval will be simplified, and that the entire tabulation will be thus rendered more useful and efficient.

Finally, it must be pointed out that changes instituted in no way diminish effective coverage of the material at hand: all topics originally designated have been covered within the context of the revised list.

AVAILABILITY OF BASIC DATA FOR INVENTORY - BY SUBJECT

I A-1 EXISTING LAND USE

(a) Major Source

D.M.A. has land use maps and field data covering most of the M.T.A.R.T.S. area.

(b) Other Sources

D.M.A. has Official Plans on file referring to many political entities within the M.T.A.R.T.S. area.

M.T.P.B. has the "Draft Official Plan of the Metropolitan Toronto Planning Area".

C.T.P.B. has on file various appraisals, plans and background material covering parts of Toronto.

The T.H.C. staff prepares an annual "Condition Plan" covering port installations and facilities.

(c) Apparent Deficiencies

Need exists to compile all available information on the basis of universally accepted subdivisions such as blocks, origin and destination zones, neighbourhoods, census subdivisions and/or coordinate matrices.

I A-2 EXISTING POPULATION & EMPLOYMENT

(a) Major Source

A great deal of information is compiled by D.B.S. in various forms using census subdivisions, tracts and enumeration areas. The effective date of much of this data is 1961 (corresponding to the 1961 Census of Canada), although minor updating has been undertaken in certain cases.

(b) Other Sources

C.T.P.B. compiles data sheet information from assessment records.

M.T.P.B. and T.T.C. update D.B.S. information from year to year.

(c) Apparent Deficiencies

There is a great deal of information available on this subject, but no uniform base year is in use.

I A-3 EXISTING INCOME

(a) Major Source

D.B.S. compiles considerable information based upon 1961 Census of Canada results.

(b) Other Sources

Certain transportation studies, particularly that dealing with the Hamilton Area, contain examinations of this subject.

M.T.P.B. has proposed that an income question be included within the format of the questionnaire to be used for the proposed 1964 Home Interview Survey.

(c) Apparent Deficiencies

This information is based upon sampling at various periods. Several bodies have frequently raised some question as to the reliability of such interviews in this region of Canada. D.B.S. based findings upon a 20% sample for the 1961 Census of Canada.

I A-4 EXISTING VEHICLE REGISTRATIONS

(a) Major Source

All vehicle registrations are recorded by D.O.T. which arranges these by counties and districts for the purposes of the Annual Report. This agency also permits the Motor List Company to make compilations by municipality.

(b) Other Sources

Several other agencies work with basic D.O.T. information and assemble it in different ways for various bodies.

D.B.S. compiles certain statistics by type of vehicle and vehicle ownership.

(c) Apparent Deficiencies

The geographic distribution of this information leaves something to be desired, partly because several major companies consistently register vehicles in places other than the locations where they are normally garaged and operated. Perhaps future plans by D.O.T. to revise the system of recording registrations will overcome this problem.

I A-5 BASE MAPS

(a) Major Source

The Canadian Army is preparing 1:25,000 scale and 1:50,000 scale maps based on fairly recent aerial photography. The military grid is overprinted on these maps.

(b) Other Sources

D.M.A. has undertaken aerial photography for much of the M.T.A.R.T.S. area, and from this has produced an outline map at a scale of 1:50,000. This is augmented by various plans prepared by Ontario Hydro and other agencies.

M.T.P.B. and C.T.P.B. have base maps ranging in scale from 1"=50' to 1"=10,000', many of which are maintained up to date by means of aerial photography.

T.T.C., C.N.R. and C.P.R. have prepared base maps covering their respective systems.

D.B.S. furnishes plans showing census subdivisions, and D.M.A. has maps upon which are plotted the D.B.S. enumeration areas, defined by written descriptions.

(c) Apparent Deficiencies

The maps prepared by various agencies are not always compatible. Whereas some of these documents are kept consistently up to date, revisions of others have not been undertaken. In addition, several scales are presently in use.

I B-1 EXISTING STREET & HIGHWAY SYSTEMS

(a) Major Source

D.H.O. maintains maps and plans of King's Highways and secondary highways. Transportation study reports for Oshawa, Barrie and the Hamilton Area delineate comprehensive major street systems within those respective vicinities. D.H.O. also has on file inventory sheets and highway and structure logs covering many important highways and King's Highway Connecting Links: urban streets are similarly dealt with as a result of the Urban Needs Study.

(b) Other Sources

The Municipal Directory maintained by D.M.A. indicates mileage of streets by municipality.

E. and D. have considered this information in their Regional Economic Studies, as well as in the brief to the Royal Commission on Transportation.

M.T.P.B. and C.T.P.B. have plans of their respective jurisdictions outlining the functional classification of roadways.

(c) Apparent Deficiencies

Information on county and township roads should be obtained, and then combined with the data described above. Coordination of data filing procedures will be required on the same basis as coordination of mapping techniques mentioned previously.

I B-2 EXISTING RAILWAY SYSTEMS

(a) Major Source

C.N.R. and C.P.R. possess complete operating statistics dealing with such matters as passenger loads, commodities carried, terminal capacities and schedules. Express and piggyback statistics are intensively documented, and detailed track plans and profiles are available. Reports covering new yard facilities are also on hand, although that

dealing with the C.N.R. Vaughan Township Marshalling Yard and Access Line is classed by the railroad as confidential.

(b) Other Sources

The report "Study of Existing Railway Lines - October, 1963" prepared for M.T.A.R.T.S. contains an inventory of existing systems and discusses schedule interlocking of long distance runs with potential commuter rail services.

B.T.M.T. has made a submission to the Board of Transport Commissioners concerning commuter rail service in the Toronto Area.

E. and D. covers railroad operating statistics on the basis of defined economic regions.

D.B.S. publishes annual and monthly summaries of car loadings and commodity movements, and also of general railway operating statistics on a broad regional basis.

(c) Apparent Deficiencies

It is assumed that existing and subsequent reports dealing with the operational and economic feasibility of commuter rail service will cover the operations of the Toronto Terminals Railway Company. The two major railroads keep quite detailed records, and no further deficiencies are evident.

I B-3 EXISTING TRANSIT SYSTEMS

(a) Major Source

T.T.C. keeps comprehensive records of its operations.

Transportation study reports for Oshawa, Barrie and the Hamilton Area contain information concerning transit operations within those respective vicinities.

(b) Other Sources

M.T.P.B. refers to transit systems in the "Draft Official Plan of the Metropolitan Toronto Planning Area".

B.T.M.T. has submitted a brief to the Metropolitan Toronto Council concerning the east-west subway.

D.B.S. periodically compiles various statistics relating to bus systems on a nation-wide basis.

(c) Apparent Deficiencies

There are several transit companies in the area which have not been contacted. It is assumed that a comprehensive compilation of area-wide transit services could be made without undue difficulty.

I B-4 EXISTING TERMINALS AND PARKING FACILITIES

(a) Major Source

T. T. C. compiles information concerning its own stations and terminals, and also deals with parking accommodation within the Toronto central business district.

C. N. R. and C. P. R. have complete data regarding capacities and usage of their terminals and transfer points throughout the M. T. A. R. T. S. area.

T. H. C. records similar complete statistics covering facilities at the Port of Toronto.

(b) Other Sources

E. and D. compiles operating statistics covering terminals, on the basis of defined economic regions.

Transportation study reports for Oshawa, Barrie and the Hamilton Area deal with parking usage and with terminals in general.

A special commuter parking study report relative to the Spadina Expressway was prepared for the Metropolitan Toronto Roads Department.

D. B. S. publishes statistics dealing with railroad operations, covering express volumes and transfers at terminals, on a broad regional basis.

The report "Study of Existing Railway Lines - October, 1963" prepared for M. T. A. R. T. S. contains statistics regarding capacities, usage and general operations of rail terminals, stations and transfer points in the area covered.

M. T. P. B. has undertaken certain studies of trucking operations within the Toronto area.

(c) Apparent Deficiencies

There appears to be a great deal of information extant. It is recorded in many forms by various agencies, and hence, its ultimate usefulness will depend upon format.

As mentioned earlier, in connection with other subjects, coordination of data upon uniform bases (i.e. area breakdowns; time periods) will definitely be required.

I C-1 EXISTING PERSON-MOVEMENTS

(a) Major Source

Extensive and complete records of passenger volumes carried are kept by C.N.R., C.P.R. and T.T.C.

Transportation study reports for Barrie and the Hamilton Area contain information concerning person trips within the particular areas covered.

Surveys conducted by M.T.P.B. based upon home interviews, etc. dealt with similar material for Metropolitan Toronto.

C.T.P.B. conducted a survey of person movements entering the central business district of Toronto.

T.T.C. in conjunction with other agencies, regularly takes cordon counts at several locations within Metropolitan Toronto.

(b) Other Sources

D.H.O. conducts person counts at various cordon and screen line stations in connection with external origin and destination surveys (i.e. Barrie, Oshawa, the Hamilton Area, the Toronto-Hamilton Corridor, and North and East Toronto).

D.B.S. publishes standard tabulations of railway and urban transit passenger loadings on annual and monthly bases covering the province.

(c) Apparent Deficiencies

Not all studies undertaken to date contain tabulations of origin and destination data. Again, all data obtained from the several studies already completed within the M.T.A.R.T.S. area will have to be expressed on a uniform base, to set the stage for coordinated analysis. The volume of air passenger movement into and out of the area may also require investigation.

I C-2 EXISTING VOLUMES OF VEHICLES

(a) Major Source

D.H.O. has made and continues to make a considerable number of counts on various roads within the M.T.A.R.T.S. area: A.T.R., classification and intersectional turning movement counts, among others, are included. Much of this work is undertaken on the basis of routine counting schedules.

(b) Other Sources

C.T.P.B. and M.T.P.B. have various counts taken on certain major roadways within the City and the Metropolitan Planning Area: additional counts are available from other municipal departments.

T.T.C. conducts cordon counts of vehicles and persons.

C.N.R. and C.P.R. have statistics available dealing with the movements of express trucks and piggyback units.

D.B.S. conducts standard surveys of car loadings and movements of various forms of transport vehicles, but only on a broad regional basis.

(c) Apparent Deficiencies

The counts, although large in number, are conducted on many different bases. Vehicle types are not always indicated, and other incompatibilities (i.e. in counting interval, in extent and detail of count, in area coverage level, in base year and/or season, etc.) are evident. Again, translation of data upon a common base for the entire region is required.

Counts are taken at varying times by different agencies, and there is no overall continuing programme under way by any one of the agencies interviewed, throughout the M.T.A.R.T.S. area. Several of the above-mentioned agencies have analyzed vehicle volumes according to purpose, composition, quality of flow, and speed and delay, but such studies tend to be sporadic, except where they form part of a comprehensive transportation plan.

I C-3 EXISTING COMMODITY-MOVEMENTS

(a) Major Source

C.N.R., C.P.R. and T.H.C. compile statistics concerning car loadings, express volumes and piggyback units.

D.O.T. publishes statistics based upon experience at weigh stations throughout the province.

(b) Other Sources

D.B.S. gathers and publishes statistics on a regional basis covering railways and ports.

E. and D. has made compilations in connection with regional economic studies.

(c) Apparent Deficiencies

It appears that itemized information on commodity movements is confidential. Understandably, the agencies mentioned in (a) above are frequently quite reluctant to release very detailed figures, because of the desire to maintain any competitive advantage they may possess.

I C-4 EXISTING REVENUES & TAX STRUCTURES

(a) Major Source

C.N.R., C.P.R., T.T.C. and T.H.C. have information concerning passenger and freight rates.

D.O.T. has made certain studies of fuel taxes, registration and license fees, etc.

During 1963, a joint committee formed by D.H.O. and D.O.T. undertook studies of highway finance and highway subsidies.

Annual reports showing yearly income from various sources are available from several of the agencies considered herein.

(b) Other Sources

D.B.S. tabulations present some revenue information concerning shipping companies and transit companies.

It is known that various discussions of policy have taken place, and we note that B.T.M.T. has made a submission to the Board of Transport Commissioners concerning possible commuter rail service in the Toronto area.

E. and D. presented a brief to the Royal Commission on Transportation, dealing in part with revenue structures.

(c) Apparent Deficiencies

We assume that much of the available data would be given to the Study Group, although some of it is generally considered to be confidential. As with other topics, comprehensive and detailed study on an area-wide basis does not seem to have been undertaken to date.

I C-5 EXISTING ACCIDENT DATA

(a) Major Source

D.O.T. compiles statistics by municipality, based upon monthly and annual questionnaires sent to local agencies such as police forces. Hence, the latter would actually represent basic sources of accident data by locality, within the broader region.

(b) Other Sources

D.B.S. compiles general statistics on a provincial basis at regular intervals.

(c) Apparent Deficiencies

Although methods of reporting accidents appear to be standardized over much of the region in question, a system of coordinate location of accidents has not yet been established. Much information still seems to be compiled on a manual basis, while such work would appear to be quite susceptible to machine tabulation. It is known that several agencies, including the Toronto Safety Council, are presently concerned with this matter.

II A-1 PROJECTED LAND USE

(a) Major Source

The various planning boards within the area have prepared land use projections which are presented in their Official Plans. Such projections are used for the various comprehensive transportation studies which have been, and are being undertaken within the M.T.A.R.T.S. area (i.e. Barrie, Oshawa, the Hamilton Area, the Toronto-Hamilton Corridor, North and East Toronto, Oakville-Burlington and Brampton-Bramalea).

D.M.A. has also prepared land use projections based upon a wider area, but these do not necessarily agree in detail with projections of the various local planning boards.

(b) Other Sources

T.H.C. and B.T.M.T. have expressed certain general ideas on future land use patterns, but no detailed surveys or projections have been undertaken to date in support of these.

C.T.P.B. is presently considering the use of a land use model for any future studies they may undertake.

(c) Apparent Deficiencies

The various Official Plans do not adopt a uniform horizon year for their projections, and do not always fit into the framework of D.M.A. projections for the broader region. Thus, considerable work remains to be done in order to overcome the wide variations in future land use plans prepared by different agencies.

II A-2 PROJECTED POPULATION & EMPLOYMENT

(a) Major Source

E. and D. has made population estimates both for defined economic regions and for Metropolitan Toronto.

D.M.A. has also prepared certain projections.

M.T.P.B., C.T.P.B. and other local planning boards within the region have prepared estimates of future conditions.

(b) Other Sources

The results of comprehensive transportation studies prepared for Barrie, Oshawa and the Hamilton Area are based upon population and employment projections prepared by local authorities: these projections have been modified in certain instances.

D.H.O. made certain forecasts in connection with motor vehicle registration historic trends and travel projections.

C.N.R., C.P.R. and T.T.C. could make available their own projections of future employment.

As mentioned under II A-1, part (b) above, C.T.P.B. is presently considering the use of a land use model for any future studies they may undertake.

(c) Apparent Deficiencies

Once again, the detailed projections do not always fit into a broader framework such as those prepared by E. and D. or D.M.A. Also, specification of the projection year is not consistent amongst the various agencies, and there is some evidence of controversy concerning population projections.

II A-3 PROJECTED INCOME

(a) Major Source

Within the "Draft Official Plan of the Metropolitan Toronto Planning Area", M.T.P.B. enters into some analysis of future income levels and their probable geographic distribution.

(b) Other Sources

The "Report of the Royal Commission on Canada's Economic Prospects", and certain general economic surveys of Canada may contain some useful data.

(c) Apparent Deficiencies

Although it is logical to expect that certain other agencies must have prepared estimates for their own purposes, we learned of little in usable form.

II A-4 PROJECTED VEHICLE REGISTRATION

(a) Major Source

D.H.O. has made certain projections of motor vehicle registrations, and travel forecasts.

The various comprehensive transportation study reports prepared for Oshawa, Barrie and the Hamilton Area also contain vehicle registration projections

(b) Other Sources

It is assumed that the various transportation studies now under way (i.e. the Toronto-Hamilton Corridor, North and East Toronto, Oakville-Burlington and Brampton-Bramalea) will make use of some form of vehicle registration projections.

(c) Apparent Deficiencies

It was not determined whether detailed studies in this field conformed to a broader framework of projections.

II B-1 PROPOSED STREET & HIGHWAY SYSTEMS

(a) Major Source

D.H.O. is responsible for Kings Highways and Secondary Highways (500 series), and has formulated certain plans with regard to these facilities.

M.T.P.B., C.T.P.B. and other local planning boards have made proposals and have developed roadway plans within their particular areas of jurisdiction.

Transportation study reports covering Oshawa, Barrie and the Hamilton Area also contain proposals for major roadway networks.

(b) Other Sources

Additional recommendations, of varying degrees of significance and comprehensiveness, have been put forward by such agencies as B.T.M.T. and other interested groups. Generally, these do not seem to be well documented.

(c) Apparent Deficiencies

The planning bases of and the needs for some of these projects are not always conclusively demonstrated. In addition, they are not necessarily related to plans covering broader regions. Thus, a major task of the Study Group will be to collect all proposals made by various agencies, and "plot" them on a common base, to determine their scope, significance and interrelationship.

II B-2 PROPOSED RAILWAY SYSTEMS

(a) Major Source

C.N.R. and C.P.R. are prepared to express general ideas concerning future operations and system layouts. C.P.R. has made a simulation study in connection with the new Agincourt Yard, and C.N.R. has planned regional schedules based upon the operation of the new marshalling yard in Vaughan Township.

The report: "Study of Existing Railway Lines - October, 1963" prepared for M.T.A.R.T.S. represents the first of a series of reports which will jointly tender recommendations concerning commuter rail service in the Toronto area.

(b) Other Sources

No other authoritative sources were discovered.

(c) Apparent Deficiencies

Future plans of the two major railways are not necessarily intercoordinated, and projected layouts and operations are not strictly defined.

II B-3 PROPOSED TRANSIT SYSTEMS

(a) Major Source

The comprehensive transportation study reports for Oshawa and the Hamilton Area deal with plans for future transit services in the areas concerned.

Within the "Draft Official Plan of the Metropolitan Toronto Planning Area", M.T.P.B. has made a general assessment of the region's future transit needs.

C.T.P.B. has made projections of a similar nature (although less comprehensive in scope) for use as base material for the "Plan for Downtown Toronto".

(b)

Other Sources

T.T.C. usually prefers to see a market for transit develop before services are extended: this agency does not usually formulate long-range plans. However, certain projections are implicit in the design of various elements of the (extended) east-west subway, now being built jointly by Metropolitan Toronto and T.T.C.

(c)

Apparent Deficiencies

There appears to be some confusion concerning basic policies which will govern the provision of transit facilities in the future. The matter of a transit operation's self-sufficiency gives rise to questions of particularly vital concern. It is obvious that problems exist in the realms of functional definition and intercoordination among proposals for commuter rail service, subway extensions and transit systems generally.

II B-4 PROPOSED TERMINALS AND PARKING FACILITIES

(a)

Major Source

C.N.R. and C.P.R. have expressed general ideas concerning potential physical and operational changes and innovations in terminals and transfer points. However, neither cited any concrete plans: if such plans did exist, they would presumably be confidential.

(b)

Other Sources

Transportation study reports for Oshawa and the Hamilton Area deal with proposed parking facilities in the central business districts of the two cities.

A report was prepared by T.T.C. concerning possible commuter parking at transit terminals. A similar report on commuter parking for the proposed Spadina rapid transit route was prepared for the Metropolitan Toronto Roads Department.

T.H.C. has put forward certain very general and lightly documented ideas, based upon a continuing study, concerning development of terminal facilities at the Port of Toronto.

C.T.P.B. has expressed certain policy statements regarding parking in downtown Toronto's central business district in the "Plan for Downtown Toronto".

B.T.M.T. has prepared certain submissions to the Board of Transport Commissioners concerning parking at commuter rail stations, and to the Metropolitan Toronto Council concerning similar provisions at stations of the east-west subway.

The report: "Study of Existing Railway Lines - October, 1963" prepared for M.T.A.R.T.S. contains statements concerning potential capacities of existing rail terminals and transfer points, assuming the operation of commuter rail services.

(c) Apparent Deficiencies

There appears to exist a diversity of principles among various area agencies. Again, coordination of purpose (and of resulting proposals) on an area-wide basis is required.

II C-1 PROJECTED PERSON-MOVEMENTS

(a) Major Source

The comprehensive traffic and transportation studies for Barrie and the Hamilton Area deal with projected person-trips, and comparable studies currently under way for Burlington-Oakville, the Toronto-Hamilton Corridor, North and East Toronto and Brampton-Bramalea will deal with similar factors.

C.N.R. and C.P.R. possess data required to make projections of passenger loadings. These would not be based upon general economic projections, but upon the railroads' own studies.

(b) Other Sources

There are no other apparent sources of data.

(c) Apparent Deficiencies

A significant volume of material has been amassed by several agencies, but much detailed analysis is required in order to eradicate duplication. Only after achieving compatibility among the various elements of data, can the results of work done to date be considered useful within the context of the regional transportation study.

II C-2 PROJECTED VOLUMES OF VEHICLES

(a) Major Source

Transportation study reports for Oshawa, Barrie and the Hamilton Area contain projections of vehicle movements on major arterial, collector and expressway networks in those areas.

M.T.P.B. has derived corridor assignments as a result of the 1956 Home Interview Survey, and the subsequent gravity model analysis.

(b) Other Sources

C.N.R. and C.P.R. could provide estimates of express truck and piggyback unit movements within the M.T.A.R.T.S. area. These are based upon the railroad's own findings, modified by those of the "Report of the Royal Commission on Canada's Economic Prospects".

(c) Apparent Deficiencies

Considerable work has been done, and more is now under way: the primary need is to coordinate and correlate this on an area-wide basis.

II C-3 PROJECTED COMMODITY-MOVEMENTS

(a) Major Source

C.N.R. and C.P.R. could provide estimates of future commodity-movements on their lines, and through terminals and transfer points. Again, these are predicated upon the railways' own findings.

Similarly, T.H.C. has made very broad estimates of future port capacity and commodity movements through the Port of Toronto: this study is of a continuing nature.

(b) Other Sources

E.M.O.-C. has shown interest in this particular field, and studies have been undertaken in Montreal which may be repeated in the Toronto area when funds become available.

(c) Apparent Deficiencies

Depending upon the ultimate scope of the regional study, further work may be required throughout the M.T.A.R.T.S. area. Work done to date is spotty, and is generally uncoordinated on a regional basis.

II C-4 PROJECTED REVENUES & TAX STRUCTURES

(a) Major Source

The Research Branch of D.O.T. has done some study on this matter, although no findings have yet been released.

(b) Other Sources

Certain studies of economic justification have been carried out relative to individual projects in Metropolitan Toronto, such as the Bloor-Danforth Subway and its proposed extensions.

The submission by B.T.M.T. to the Board of Transport Commissioners concerning commuter rail service would be available to the Study Group.

C.N.R. and C.P.R. could provide estimates of future passenger revenues and income.

(c) Apparent Deficiencies

No well-defined base for projection is apparent. Some uncertainty exists as to whether this subject falls within the scope of the current study due to political implications involved.

III A SUBDIVISION SYSTEMS USED FOR DATA ANALYSIS

(a) Major Source

There are two fundamental systems currently being used:

- (i) the first, developed in conjunction with D.B.S., represents a splitting-down of the area into electoral districts, which are usually further subdivided into census subdivisions and census tracts. For certain purposes, a further breakdown into enumeration areas is made.
- (ii) the second is a coordinate system, exemplified by that which is superimposed on Army base maps by means of a transverse mercator grid. It is understood that M.T.P.B. plans to use this system as a basis for the 1964 Home Interview Study.

(b) Other Sources

D.H.O., M.T.P.B. and C.T.P.B. all use census subdivisions to some extent. For the purpose of transportation studies, census subdivisions are commonly rearranged into a system of traffic generation zones.

(c) Apparent Deficiencies

It would appear vitally necessary to impose an overriding subdivision system upon the entire M.T.A.R.T.S. area. This system should permit expansion at a later date to cover the province, and ultimately, the nation.

III B METHODS OF ANALYSIS

(a) Major Source

The predominant analysis techniques used in this area seem to be those developed by D.H.O.

M.T.P.B. has also developed techniques to some extent. The gravity model approach has been used by M.T.P.B. and by several of the consultants engaged in transportation studies.

(b) Other Sources

C.T.P.B. is presently considering the adoption of a land use model.

(c) Apparent Deficiencies

Although there are many references to analysis techniques in sources such as Highway Research Board publications, there appears to be need for greater dispersion of information about techniques used locally. To date, several reports have been published by M.T.P.B., and it is understood that D.H.O. will shortly have ready a series of briefs outlining operational procedures covering various computer programmes.

IV A EXPRESSIONS OF POLICY

(a) Major Source

Most agencies contacted have developed policies concerning their own spheres of jurisdiction.

T.H.C., C.T.P.B. and M.T.P.B. have developed statements of policy concerning future planning in their respective areas of influence.

(b) Other Sources

B.T.M.T. has, from time to time, developed a series of statements and critiques concerning work undertaken or proposed by other area agencies. These take the form of submissions to the Board of Transport Commissioners and to the Metropolitan Toronto Council, touching on various transportation and planning matters.

(c) Apparent Deficiencies

It appears that policies of the provincial government affecting certain local matters are not well documented or understood. In citing this, attention is directed to various studies (undertaken and in progress) on the form of the Metropolitan Toronto Government, as well as to

questions of granting subsidies for urban transit facilities: no doubt, these will become major areas of concern for M.T.A.R.T.S. Other specific policy matters which might prove important concern freeway construction, urban renewal, port expansion and airport development.

CONCLUSIONS AND GENERAL RECOMMENDATIONS

It is apparent that there exists a very considerable volume of material pertinent to transportation and general economic development in the M.T.A.R.T.S. area.

The "pre-inventory" survey represents a mere beginning, and considerable work remains to be done before a data register can be evolved which will be sufficiently broad in its scope and detailed in its documentation to form a comprehensive foundation for the work of the Study Group. The mass of data is not only vast at present, but is also being constantly expanded; hence, efficient techniques of data retrieval, abstraction, storage and updating will have to be adopted. In short, the early establishment of a permanent library and indexing system would appear to be essential if the Transportation Study is to proceed methodically.

Although a great deal of extremely valuable analysis and planning has been undertaken, large volumes of data are currently recorded on unrelated and often incompatible bases. It is felt that the intrinsic value of work already accomplished should be acknowledged, and that efforts should be made forthwith to translate these data and plans onto a common, mutually acceptable base.

We recommend that the military grid system be adopted as the basis for the assembly and compilation of all pertinent information. Once this standard identification technique is adopted, it will be possible to transfer all material, or selected portions thereof, onto punch cards in order to facilitate high-speed data processing.

